

CLAIMS

1. An antibody or a fragment thereof which binds to the gp120 glycoprotein of HIV and has a dissociation constant (KD) value of 1.0×10^{-9} (M) or less.

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2. The antibody or fragment thereof according to claim 1, which is capable of recognizing as least a part of an amino acid sequence spanning from amino acid positions 308 to 330 of the gp120 glycoprotein.

10 3. The antibody or fragment thereof according to claim 2, wherein the amino acid sequence spanning from amino acid positions 308 to 330 is as shown in SEQ ID NO: 6.

4. The antibody or fragment thereof according to any one of claims 1 to 3, wherein the antibody is a polyclonal antibody or monoclonal antibody.

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5. A monoclonal antibody or a fragment thereof to the gp120 glycoprotein of HIV, which is produced by a hybridoma cell having an accession number of FERM BP-08644.

20 6. A humanized antibody or human antibody, or a fragment thereof, which comprises the V region of the antibody or fragment thereof according to claim 4 or 5.

7. A high affinity antibody-producing cell collectable from a GANP transgenic non-human mammal, or a progeny thereof, that was immunized with a polypeptide comprising at least a part of the amino acid sequence as shown in SEQ ID NO: 6 as an antigen.

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8. A cell producing a monoclonal antibody to the gp120 glycoprotein of HIV, which has an accession number of FERM BP-08644.

30 9. A method of producing an anti-HIV antibody or a fragment thereof, comprising immunizing a GANP transgenic non-human mammal or a progeny thereof with a polypeptide comprising at least a part of the amino acid sequence as shown in SEQ ID NO: 6 as an antigen and collecting the antibody from the resultant mammal or progeny.

35 10. A method of producing an anti-HIV antibody or a fragment thereof, comprising culturing a fusion cell composed of the cell according to claim 7 and a myeloma cell, or the

monoclonal antibody-producing cell according to claim 8, and collecting the antibody from the resultant culture.

5 11. A pharmaceutical composition comprising at least one selected from the group consisting of the antibody or fragment thereof according to any one of claims 1 to 5, and the humanized antibody or human antibody, or fragment thereof according to claim 6.

12. The pharmaceutical composition according to claim 11, which is a therapeutic for acquired immunodeficiency syndrome.

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13. A method of detecting HIV, comprising reacting the antibody or fragment thereof according to any one of claims 1 to 5, or the humanized antibody or human antibody, or fragment thereof according to claim 6 with the gp120 glycoprotein of HIV.

15 14. An HIV detection kit comprising at least one selected from the group consisting of the antibody or fragment thereof according to any one of claims 1 to 5, and the humanized antibody or human antibody, or fragment thereof according to claim 6.